Simple Stool

Take a load off your feet and reach new heights with this easy-to-build piece

BY DAN CARY

This stool's seat is the perfect height for sitting at a countertop, and the wide step is a stable platform for reaching high places.

PHOTOS BY DAN CARY AND LARRY OKREND

There aren't many projects that are attractive, useful, easy-to-build *and* inexpensive. But this kitchen stool hits on all four notes.

Though I initially envisioned designing something more contemporary with more complicated joinery, I favored a simpler approach after examining other kitchen stools that I liked. The result is a piece with handmade appeal that will improve with age. The seat is a comfortable height for sitting at a countertop, and the step will allow you to reach most upper cabinets.

The first step toward keeping construction simple and costs down was limiting the size of the parts to match the

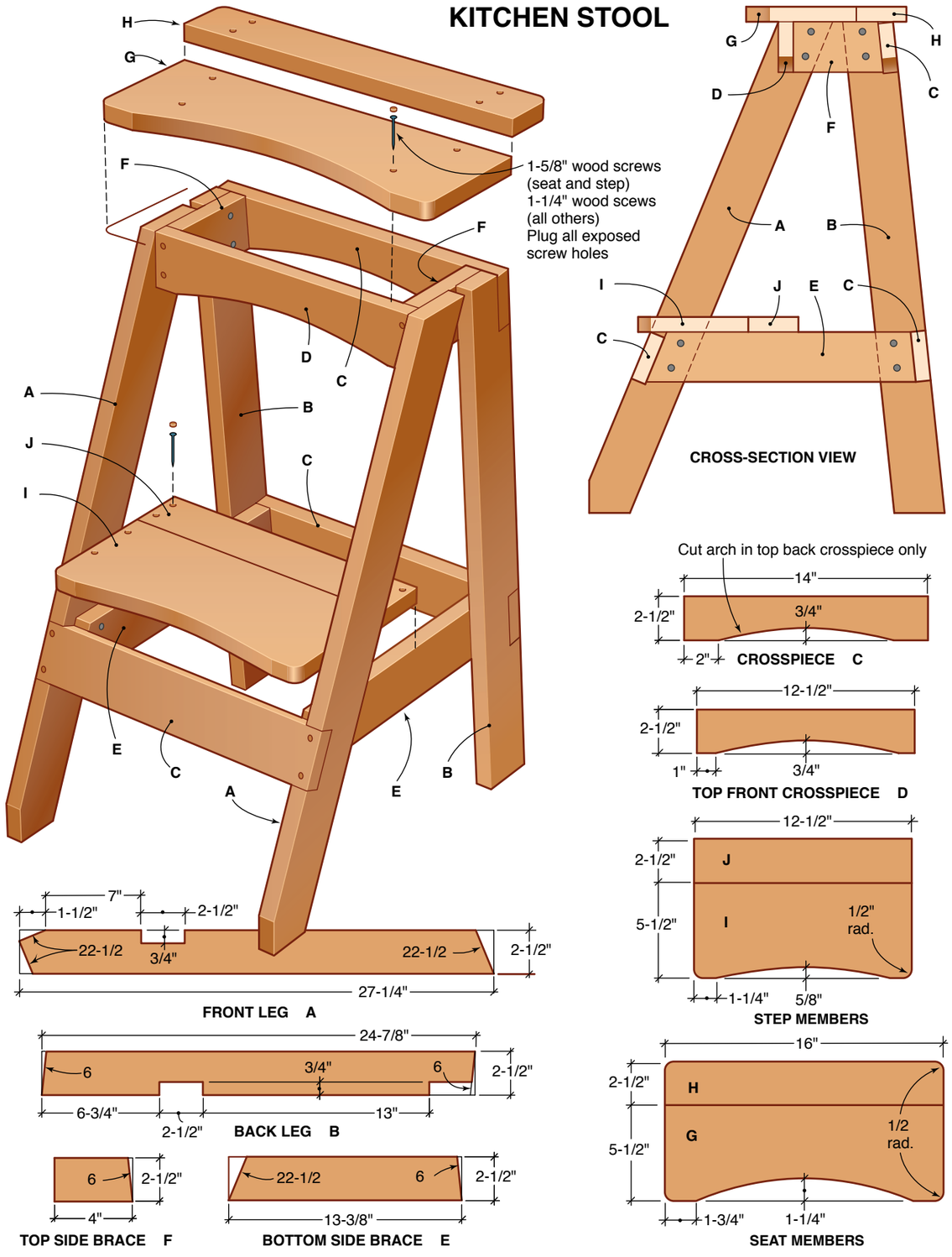
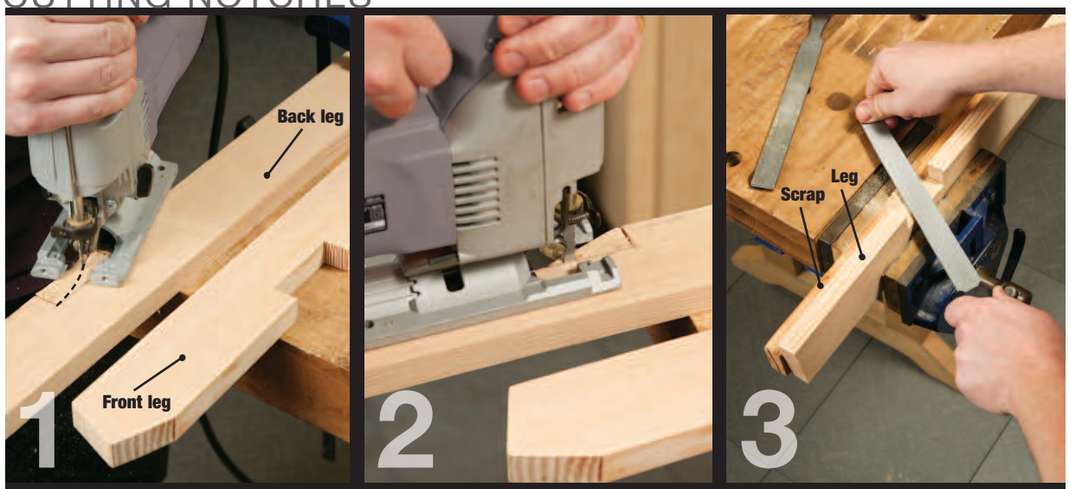


ILLUSTRATION BY GABRIEL GRAPHICS

CUTTING NOTCHES



1. Make a sweeping diagonal cut through the notch area, straightening out the cut along the back edge.
2. Cut back along the back edge line. Be careful not to cut across the line. Then cut in along the side lines.
3. Use a rasp and file to remove the waste up to the layout lines. Clamp a scrap to the leg to stop you from filing too deep.

dimensions of common lumber. This approach eliminates rip cuts (a hurdle for those who don't have a table saw). I avoided using 2x lumber and any boards that were 3-1/2 in. wide because they tend to look bulky and are too identifiable as construction-grade lumber. Instead, I chose 1x3 boards for most of the parts and 1x6s for the seat and step. Pine, poplar and sometimes oak or maple boards are available in these dimensions at most home centers. Of course, if you have the tools and skills to mill your own boards, you can substitute any durable wood species you like. In this case I chose straight-grain Douglas fir.

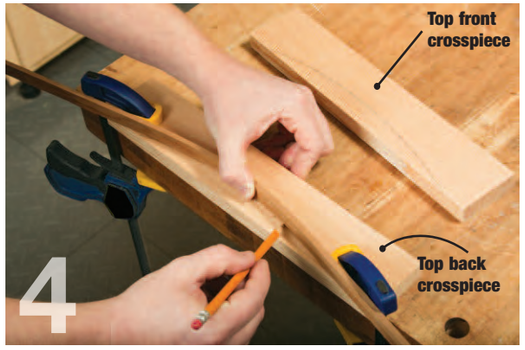
This project doesn't require much lumber. You could build the stool out of pine for about $30 (including screws and a can of finish).

CUTTING LIST

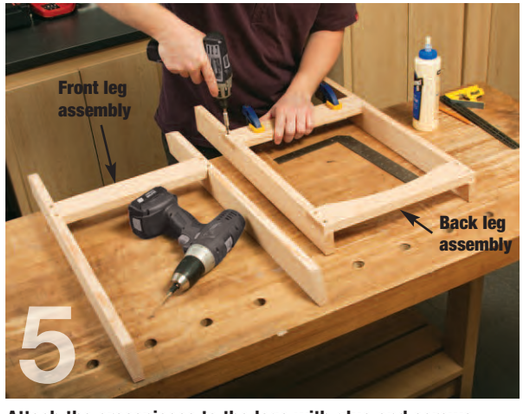
KEY	NO.	DESCRIPTION	DIMENSIONS
A	2	Front legs	3/4 x 2-1/2 x 27-1/4 in.
B	2	Back legs	3/4 x 2-1/2 x 24-7/8 in.
C	3	Crosspieces	3/4 x 2-1/2 x 14 in.
D	1	Top front crosspiece	3/4 x 2-1/2 x 12-1/2 in.
E	2	Bottom side braces	3/4 x 2-1/2 x 13-3/8 in.
F	2	Top side braces	3/4 x 2-1/2 x 4-1/2 in.
G	1	Wide seat	3/4 x 5-1/2 x 16 in.
H	1	Narrow seat	3/4 x 2-1/2 x 16 in.
I	1	Wide step	3/4 x 5-1/2 x 12-1/2 in.
J	1	Narrow step	3/4 x 2-1/2 x 12-1/2 in.

SHOPPING LIST

- 1x3 x 8-ft. boards (3)
- 1x6 x 8-ft. board (1)
- 1-5/8-in. screws (14)
- 1-1/4-in. screws (26)
- Wood glue
- Polyurethane finish



Place clamps where the arc will end on the top crosspieces. Flex a piece of scrap wood or metal against the clamps to create the arc template that you will trace.



Attach the crosspieces to the legs with glue and screws. Check that the parts are square before drilling pilot holes and driving the screws.

Complicated joinery is unnecessary: Glue and screws provide plenty of strength to secure most of the joints. The only joints to cut are the leg notches that accept the crosspieces. These notches significantly increase the stool's strength and lateral (side-to-side) stability so it won't wiggle.

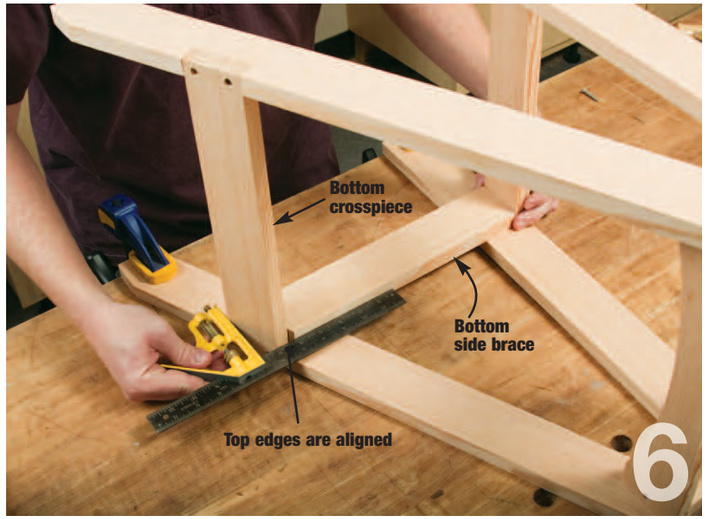
This is a great first furniture project for any aspiring woodworker. A person with beginner skills and a few basic shop tools, including a jigsaw and a drill-driver, could complete it in a weekend.

Build the stool

Start by cutting the leg parts to length. The front and back legs lean into the stool at different angles. Cut the ends of the front legs to 22-1/2 degrees. Cut the ends of the back legs to 6 degrees. These cuts are easiest to make on a miter saw, but you can also mark the angles with a protractor or speed square and cut them with a jigsaw, a circular saw or even a handsaw.

Next, cut the notches in the front and back legs. There are several ways to do this. My first choice is to crosscut the notches with a router or table saw. But if you don't have either of these tools, you can also use a jigsaw (photos 1, 2 and 3). The face of the crosspieces should be flush with the outside edges of the legs, so be careful not to cut past your layout lines.

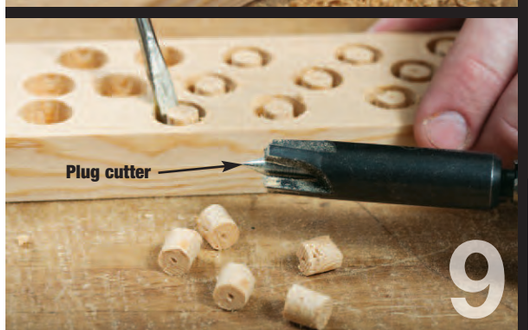
Three of the crosspieces fit into notches and are flush with the outside edge of the legs, but the top front crosspiece is shorter and fits between the front legs. The top crosspieces also feature an arc profile cut along the bottom edge. Bend a flexible piece of scrap wood or metal to lay out the arcs (photo 4; see illustration, p. 12, for arc-layout details). Then cut along the layout lines and sand the arcs smooth. (Note: Before assembling any of the parts, I prefer to sand them smooth using 100- and 150-grit sandpaper. The pieces are easier to sand individually, and this way when the project is fully assembled, I only have to give it a quick final sanding before applying finish.)



Attach the side braces to the legs. Use a straightedge to align the top of the bottom side braces flush with the top of the bottom crosspieces.

Attach the seat and step boards. Carefully lay out the screw locations to align with the side braces and crosspieces.

MAKING AND INSTALLING WOOD PLUGS



8. Most plug cutters must be mounted in a drill press, but this model works well in portable drills (see SOURCES ONLINE).
9. Use a flathead screwdriver to pop the plugs free.
10. Apply a small amount of glue to the edges of each hole and tap in the plugs. Trim the plugs flush.

Attach the two back crosspieces to the back legs and attach the bottom crosspiece to the front legs with glue and 1-1/4-in. wood screws (photo 5). Make sure the parts are square. Drill a pilot and countersink hole for each screw. If you plan to conceal the screwheads with wood plugs, drill roughly 1/4-in.-deep counterbore holes.

The side brace pieces connect the front and back legs. Cut the back end of the bottom braces to 6 degrees and the front end to 22-1/2 degrees. Only the back end of the top braces is mitered. Cut the back end of the top braces to 6 degrees and cut the front end square.

Attach the top front crosspiece to the top side braces. One screw in each joint is sufficient for these connections. Then clamp the top braces to the leg assemblies, aligning the top edges of the side braces with the top edges of the legs. Position the legs upright on a flat surface and adjust them so that all of the legs contact the surface. Drill pilot holes and attach the braces with glue and 1-1/4-in. screws. Then tip the legs on their sides and attach the bottom side braces (photo 6). Align the top edge of each bottom side brace flush with the top edge of the front bottom crosspiece. Attach the side braces with glue and 1-1/4-in. screws.

The seat and step are made from one 1x3 and one 1x6. Use the detail illustrations, p. 12, to lay out the wide seat and wide step patterns. Use the same flexible scrap that you used to lay out the crosspiece arcs to shape the seat and step arc profiles. Cut out each piece and sand the profiles smooth. Then attach the seat and step boards to the side braces and crosspieces with 1-5/8-in. wood screws (photo 7).

Exposed screwheads are acceptable on outdoor furniture, but they should be concealed on interior pieces. If you plan to paint your stool, you can cover the screwheads with paintable wood filler and sand them smooth before painting. I planned to use a clear finish, so I cut wood plugs to conceal the screwheads. I used a plug cutter to cut the plugs from the same wood that I used to make the stool (photos 8, 9 and 10) and carefully oriented the grain on the plugs with the surrounding grain. Another option is to use a different wood species for the plugs so they stand out as a decorative accent on the finished stool.

The final steps are to trim the plugs flush, sand the project and apply the finish. Use a flush-cut saw or a sharp chisel to trim the plugs and then sand them flush with the surrounding wood. If you sanded the parts as you made them, a quick once-over with 220-grit sandpaper should be all that's necessary before you apply finish. I wiped on several coats of oil-base polyurethane; you can use the finish of your choice. ◆

SOURCES ONLINE
For online information, go to **www.HandymanClub.com** and click on WEB EXTRAS.
Rockler
(Self-Centering Plug Cutter Set, No. 39817), 800-279-4441, www.rockler.com